

APALACHICOLA, CHATTAHOOCHEE & FLINT RIVERS
ALABAMA, GEORGIA & FLORIDA

WALTER F. GEORGE LOCK AND DAM

CONDITION OF IMPROVEMENT ON 30 SEPTEMBER 1997

Existing Project: This project consists of a concrete dam, gated spillway, and single-lift lock, with earth embankments at either side. The non-overflow section of the dam includes the powerhouse and intake structure. The tainter gated spillway is 708 feet long with crest at elevation 163 feet national geodetic vertical datum. The two earth embankments, of almost equal lengths, have a total length of 12,128 feet, with crest elevation at 215, and a maximum height of about 68 feet. The non-overflow section of the concrete dam is 200 feet long, with deck of the powerhouse section at elevation 208. The lock with usable chamber dimensions of 82 feet by 450 feet, has a lift of 88 feet with pool elevation at 190. Depths are 13 feet over lower sill and 18 feet over upper sill at summer pool elevation 190. The underlying foundation is limestone. The 80.0 mile long lake created by this dam at normal pool elevation 190.0 has an area of 45,151 acres, a capacity of 934,000 acre feet with 244,400 acre feet reserved for power, and a 9 x 100 foot navigation channel extending its entire length. Power installation consists of 4 units of 32,500 kilowatts each, or a total of 130,000 kilowatts.

Since impoundment of the Walter F. George reservoir, problems have existed as a result of underseepage beneath the earth embankments. The seepage occurs through alluvial sand and gravel, concentrated by some cavities occurring near the top of limestone bedrock. In April 1978, the Mobile District prepared a reconnaissance report and it was concluded that only one scheme, a concrete cutoff wall, was economically feasible. A Phase I test section was completed in December 1981. The wall extended about 130 feet deep, through the embankment of sand and gravel, to below the cavernous zone near top of rock. The Phase I cutoff wall was effective in cutting off underseepage and in May 1982 the District prepared a Design Memorandum which recommended an additional 8100 linear feet of wall to complete the cutoff beneath the earth dikes. The Phase II contract was awarded in February 1983, construction initiated in April 1983 and the concrete cutoff wall was completed in March 1985.

The project was authorized by Section 2 of the River and Harbor Act of 1945, as amended.

Progress: Completed in 1963, and major rehabilitation completed in March 1985.

Cost of Construction: \$99,263,553 (\$10,932,884 for major rehabilitation, and \$333,198 cost of land for Wildlife Refuge.)

Acreage Acquired: 77,291.